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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,686	12/12/2003	Young Hwa Kim	78693-344308	1211
28863 7590 02/23/2010 SHUMAKER & SIEFFERT, P. A. 1625 RADIO DRIVE SUITE 300 WOODBURY, MN 55125				
EXAMINER				
PIZIALI, ANDREW T				
ART UNIT		PAPER NUMBER		
1794				
NOTIFICATION DATE		DELIVERY MODE		
02/23/2010		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

pairedocketing@ssiplaw.com

### Office Action Summary

**Application No.**

10/734,686

**Applicant(s)**

KIM ET AL.

**Examiner**

Andrew T. Piziali

**Art Unit**

1794

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 January 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 47, 56, 57, 66, 68 and 70-81 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 47, 56, 57, 66, 68 and 70-81 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 1/8/2010
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Supplemental Office Action***

1. This office action corrects the rejections of the office action mailed 1/4/2010 and considers the IDS submitted on 1/8/2010.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 47, 56, 57, 66, 68 and 70-81 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

The specification is silent regarding the use of “thermoset polymeric resin” (claim 47) or “thermoset epoxy resin” (claims 72 and 79) guard plate material. The specification merely discloses that the plate material may include epoxy resin and phenol-based resins.

The specification is silent regarding the guard plates partially penetrating into a substrate across the entire area of the guard plates. It is noted that the “entire area” includes the top, bottom, and sides of the guard plates while Figure 7 merely illustrates the guard plates partially penetrating a substrate across less than the entire area of the guard plates.

The specification is silent regarding the guard plates being harder than the substrate.

Regarding claim 78, the specification is silent regarding the overall abrasion resistance of the composite fabric being between “approximately” 10 and 200 times greater than the abrasion resistance of the substrate.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 47, 56, 57, 66, 68 and 70-81 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase “substantially the entire area of the guard plates” renders the claims indefinite. It is not clear how much area is being referenced by said phrase.

It is not clear how guard plates can “partially” penetrate into a substrate across the “entire area” of the guard plates. It is noted that the “entire area” includes the top, bottom, and sides of the guard plates.

The phrase “overall abrasion resistance” renders the claimed indefinite. It is not clear what “overall” abrasion resistance test method is being used to compare the abrasion resistance of the fabric to the abrasion resistance of the substrate.

Regarding claims 70 and 80, the phrase “approximately 80 Shore D” renders the claims indefinite because there is nothing in the specification, prosecution history, or the prior art to provide any indication as to what range is covered by the term “approximately.”

Regarding claim 78, the phrase “approximately 10 and 200 times greater” renders the claims indefinite because there is nothing in the specification, prosecution history, or the prior art to provide any indication as to what range is covered by the term “approximately.”

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 47, 56, 57, 66, 68, 70-74 and 76-80 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,044,493 to Post in view of WO 98/30625 to Christie.

Post discloses a glove comprising a woven substrate and an array of non-overlapping guard plates that partially penetrate into the substrate (see entire document including the Figures, column 1, lines 5-12, column 4, lines 52-67, column 5, lines 10-36 and column 6, lines 27-45). Post discloses that the guard plate height may be between 0.5 and 1.5 mm (19.7 to 60 mils) (column 5, lines 21-36) and that the guard plate gap width may be 20-40 mesh (16.5 to 33 mils) (column 6, lines 27-45). Post discloses that the guard plates are cured to harden them and bond them to the fabric (column 6, lines 27-45).

Post discloses that the guard plate material is elastomeric or polymeric (column 3, lines 24-26 and column 7, lines 41-51), but Post does not appear to mention if the polymeric material is a thermoset. Christie discloses that it is known in the abrasion resistant polymeric art that thermoset epoxy resin comprising abrasion resistant alumina additive particles provides an abrasion resistant polymer (see entire document including page 3, line 11 through page 5, line 14). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the polymeric guard plates from any suitable abrasion resistant polymeric material, such as thermoset epoxy comprising abrasive resistant particles, because it

has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.

The substitution of known equivalent structures involves only ordinary skill in the art. *In re Fout* 213 USPQ 532 (CCPA 1982); *In re Susi* 169 USPQ 423 (CCPA 1971); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *In re Ruff* 118 USPQ 343 (CCPA 1958). When a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result. *KSR v. Teleflex*.

Post does not appear to directly compare the abrasion resistance of the composite fabric to the abrasion resistance of the substrate, but Post does disclose that the composite fabric has a higher abrasion resistance than the substrate and that the thickness of the guard plate coating is an abrasion resistance result-effective variable (column 2, lines 42-54). Therefore, the applied prior art appears to teach, or at least suggest, the claimed limitation and/or it would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the thickness of the coating, such that the fabric abrasion resistance is about 10 times greater than that of the substrate, because different applications desire different amounts of abrasion resistance and Post discloses that the fabric may be used in a variety of applications (column 4, lines 42-51).

Regarding claim 56, the examiner takes official notice that silicone is a heat resistant material.

Regarding claims 70, 73 and 80, considering that the current specification discloses that a substantially identical cured epoxy resin plate possesses a hardness of 80 Shore D (paragraph bridging pages 19 and 20) and a tensile strength of greater than 100 kgf/cm<sup>2</sup> (paragraph bridging pages 13 and 14), it appears that the guard plates taught by the applied prior art inherently possess the currently claimed characteristics.

The Patent and Trademark Office can require applicants to prove that prior art products do not necessarily or inherently possess characteristics of claimed products where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes; burden of proof is on applicants where rejection based on inherency under 35 U.S.C. § 102 or on prima facie obviousness under 35 U.S.C. § 103, jointly or alternatively, and Patent and Trademark Office's inability to manufacture products or to obtain and compare prior art products evidences fairness of this rejection, *In re Best, Bolton, and Shaw*, 195 USPQ 431 (CCPA 1977).

Regarding claims 71 and 79, Post discloses that the article may comprise pants (column 4, lines 42-51).

8. Claims 75 and 81 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,044,493 to Post in view of WO 98/30625 to Christie as applied to claims 47, 56, 57, 66, 68, 70-74 and 76-80 above, and further in view of USPN 5,442,815 to Cordova.

Post does not appear to mention a thickness range for the substrate, but Cordova discloses that it is known in the cut resistant glove art to construct gloves with a thickness of about 1.25 mm or less (see entire document including column 3, lines 19-31). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make

the substrate with a thickness of about 1.25 mm, motivated by the expectation of successfully practicing the invention of Post.

9. Claims 47, 56, 66, 68, 71 and 76-79 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,044,493 to Post in view of USPN 5,914,082 to Harrison.

Post discloses a glove comprising a woven substrate and an array of non-overlapping silicone guard plates that partially penetrate into the substrate (see entire document including the Figures, column 1, lines 5-12, column 4, lines 52-67, column 5, lines 10-36 and column 6, lines 27-45). Post discloses that the guard plate height may be between 0.5 and 1.5 mm (19.7 to 60 mils) (column 5, lines 21-36) and that the guard plate gap width may be 20-40 mesh (16.5 to 33 mils) (column 6, lines 27-45). Post discloses that the guard plates are cured to harden them and bond them to the fabric (column 6, lines 27-45).

Post does not appear to directly compare the abrasion resistance of the composite fabric to the abrasion resistance of the substrate, but Post does disclose that the composite fabric has a higher abrasion resistance than the substrate and that the thickness of the guard plate coating is an abrasion resistance result-effective variable (column 2, lines 42-54). Therefore, Post appears to teach or at least suggest the claimed limitation and/or it would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the thickness of the coating, such that the fabric abrasion resistance is about 10 times greater than that of the substrate, because different applications desire different amounts of abrasion resistance and Post discloses that the fabric may be used in a variety of applications (column 4, lines 42-51).



Post does not mention if the guard plate material is a thermoset, but Post does disclose that the guard plate material may be silicone (column 5, lines 10-20). Harrison discloses that it is known in the clothing art to bond thermoset silicone bodies to clothing substrates (see entire document including column 5, lines 8-30). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the silicone from any suitable silicone material, such as thermoset silicone, because thermoset silicone readily bonds to clothing substrates and because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.

Regarding claim 56, the examiner takes official notice that silicone is a heat resistant material.

Regarding claims 71 and 79, Post discloses that the article may comprise pants (column 4, lines 42-51).

10. Claims 57, 70, 72-74 and 80 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,044,493 to Post in view of USPN 5,914,082 to Harrison as applied to claims 47, 56, 66, 68, 71 and 76-79 above, and further in view of WO 98/30625 to Christie.

Post does not appear to mention the guard plate material comprising abrasion resistant additive material, but Christie discloses that it is known in the abrasion resistant polymer art to include alumina particles to increase the abrasion resistance of the polymer (see entire document including page 3, line 11 through page 5, line 14). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include alumina particles in the guard plate polymer material of Post, motivated by a desire to increase abrasion resistance.

Regarding claim 72, Post does not appear to specifically mention the use of epoxy resin guard plate material, but Christie discloses that it is known in the art to use a thermoset epoxy resin (page 3, lines 11-18) and a high hardness abrasion resistant additive (paragraph bridging columns 3 and 4). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the guard plates from any suitable polymeric material, such as epoxy polymer with high hardness additives, because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.

Regarding claims 70, 73 and 80, considering that the current specification discloses that a substantially identical cured epoxy resin plate possesses a hardness of 80 Shore D (paragraph bridging pages 19 and 20) and a tensile strength of greater than 100 kgf/cm<sup>2</sup> (paragraph bridging pages 13 and 14), it appears that the guard plates taught by the applied prior art inherently possess the currently claimed characteristics.

The Patent and Trademark Office can require applicants to prove that prior art products do not necessarily or inherently possess characteristics of claimed products where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes; burden of proof is on applicants where rejection based on inherency under 35 U.S.C. § 102 or on prima facie obviousness under 35 U.S.C. § 103, jointly or alternatively, and Patent and Trademark Office's inability to manufacture products or to obtain and compare prior art products evidences fairness of this rejection, *In re Best, Bolton, and Shaw*, 195 USPQ 431 (CCPA 1977).

11. Claims 75 and 81 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,044,493 to Post in view of USPN 5,914,082 to Harrison as applied to claims 47, 56, 66, 68, 71 and 76-79 above, and further in view of USPN 5,442,815 to Cordova.

Post does not appear to mention a thickness range for the substrate, but Cordova discloses that it is known in the cut resistant glove art to construct gloves with a thickness of about 1.25 mm or less (see entire document including column 3, lines 19-31). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the substrate with a thickness of about 1.25 mm, motivated by the expectation of successfully practicing the invention of Post.

#### ***Response to Arguments***

12. Applicant's arguments filed 10/27/2009 have been considered but are moot in view of the new grounds of rejection.

#### ***Conclusion***

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Piziali whose telephone number is (571) 272-1541. The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on (571) 272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew T Piziali/  
Primary Examiner, Art Unit 1794